WHAT IS CLAIMED IS:

1. A symmetrical oscillator, comprising:

a first active component having a drive terminal and first and second gain terminals, one of the first and second gain terminals of the first active component being coupled to a first reference node;

a second active component having a drive terminal and first and second gain terminals, one of the first and second gain terminals of the second active component being coupled to the first reference node;

a reactive element coupled between the drive terminals of the first and second active components, the reactive element at least partially defining a fundamental resonant frequency;

a first feedback circuit having at least one reactive component coupled between the other of the first and second gain terminals of the first active component and a common node; and

a second feedback circuit having at least one reactive component coupled between the other of the first and second gain terminals of the second active component and the common node,

wherein an output signal is taken from at least one of the reactive element, the common node, and the first reference node.

2. The symmetrical oscillator of claim 1, wherein one of an electrical center of the reactive element, the common node, and the first reference node, from which the output signal is not taken, is coupled to a second reference node such that the output signal has a frequency of substantially twice the fundamental resonant frequency.

3. The symmetrical oscillator of claim 2, wherein at least one of the first and second reference nodes are at ground potential.

4. The symmetrical oscillator of claim 1, wherein the reactive element and the reactive components of the first and

second feedback circuits at least partially define the fundamental resonant frequency.

5. The symmetrical oscillator of claim 1, wherein the reactive element includes a first inductor coupled between first and second terminals.

6. The symmetrical oscillator of claim 5, wherein the reactive element is coupled to the first and second active components by way of first and second capacitors, each having one end connected to a respective one of the first and second terminals and another end coupled to a respective one of the drive terminals of the first and second active components.

7. The symmetrical oscillator of claim 6, wherein the first and second capacitors are at least one of varactor diodes and microelectromechanical systems.

8. The symmetrical oscillator of claim 6, wherein the reactive element, the first and second capacitors, and the reactive components of the first and second feedback circuits at least partially define the fundamental resonant frequency.

9. The symmetrical oscillator of claim 5, wherein the first inductor includes a center tap from which another output signal of substantially twice the fundamental resonant frequency may be obtained.

10. The symmetrical oscillator of claim 5, further comprising a second inductor inductively coupled to the first inductor and including a first end coupled toward a second reference node and a second end from which another output signal of substantially the fundamental resonant frequency may be obtained.

11. The symmetrical oscillator of claim 10, wherein the first and second inductors are formed from microstrip transmission lines.

12. The symmetrical oscillator of claim 10, wherein the first and second reference nodes are at a same potential.

13. The symmetrical oscillator of claim 1, wherein at least one of the first and second feedback circuits include a capacitor.

14. The symmetrical oscillator of claim 13, wherein the capacitor of at least one of the first and second feedback circuits is one of a varactor diode and a microelectromechanical system.

15. The symmetrical oscillator of claim 13, wherein the reactive element, the reactive components of the first and second feedback circuits, and the capacitor of at least one of the first and second feedback circuits at least partially define the fundamental resonant frequency.

16. The symmetrical oscillator of claim 1, wherein at least one of the first and second active components is taken from the group consisting of bipolar transistors, field effect transistors, heterojunction bipolar transistors, silicon-germanium transistors, insulated gate bipolar transistors, and vacuum tubes.

17. The symmetrical oscillator of claim 16, wherein the first and second active components are bipolar transistors, respective bases of which are coupled to respective ends of the reactive element, collectors of which are coupled to the first reference node, and respective emitters of which are coupled to the first and second feedback circuits.

18. The symmetrical oscillator of claim 17, wherein the first and second active components are NPN bipolar transistors.

19. The symmetrical oscillator of claim 17, further comprising at least one shunt capacitor coupled between the base and emitter of at least one of the first and second active components.

20. The symmetrical oscillator of claim 19, wherein the reactive element, the reactive components of the first and second feedback circuits, and the at least one shunt capacitor at least partially define the fundamental resonant frequency.

21. The symmetrical oscillator of claim 17, further comprising one of a varactor diode and a microelectromechanical system coupled between the base and emitter of at least one of the first and second active components.

22. The symmetrical oscillator of claim 1, wherein a first output signal of substantially the fundamental resonant frequency is taken inductively from the reactive element and at least one second output signal of substantially twice the fundamental resonant frequency is taken from at least one of an electrical center of the reactive element, the common node, and the first reference node.

23. The symmetrical oscillator of claim 22, wherein one of the electrical center of the reactive element, the common node, and the first reference node, from which the second output signal is not taken, is coupled to a second reference node.

24. The symmetrical oscillator of claim 22, wherein the reactive element includes a first inductor coupled between the drive terminals of the first and second active components, and a

second inductor inductively coupled to the first inductor having a first end coupled toward a third reference node and a second end from which the first output signal of substantially the fundamental resonant frequency is taken.

25. The symmetrical oscillator of claim 24, wherein the first, second and third reference nodes are at a same potential.

26. The symmetrical oscillator of claim 24, wherein the first and second inductors are formed from microstrip transmission lines.

27. A symmetrical oscillator, comprising:

a first active component having a drive terminal and first and second gain terminals, one of the first and second gain terminals of the first active component being coupled to a first reference node;

a second active component having a drive terminal and first and second gain terminals, one of the first and second gain terminals of the second active component being coupled to the first reference node;

a first reactive element coupled between the other of the first and second gain terminals of the first active component and the drive terminal of the first active component;

a second reactive element coupled between the other of the first and second gain terminals of the second active component and the drive terminal of the second active component, the first and second reactive elements at least partially defining a fundamental resonant frequency;

a first shunt circuit having at least one reactive component coupled between the drive terminal of the first active component and a common node;

a second shunt circuit having at least one reactive component coupled between the drive terminal of the second active component and the common node; and

a feedback circuit coupled between the others of the first and second gain terminals of the first and second active components,

wherein an output signal is taken from at least one of the feedback circuit, the common node, and the first reference node.

28. The symmetrical oscillator of claim 27, wherein one of an electrical center of the feedback circuit, the common node, and the first reference node, from which the output signal is not taken, is coupled to a second reference node, such that the output signal has a frequency of substantially twice the fundamental resonant frequency.

29. The symmetrical oscillator of claim 28, wherein at least one of the first and second reference nodes are at ground potential.

30. The symmetrical oscillator of claim 27, wherein the first and second reactive elements, the reactive components of the first and second shunt circuits, and the feedback circuit at least partially define the fundamental resonant frequency.

31. The symmetrical oscillator of claim 27, wherein at least one of the first and second reactive elements includes an inductor coupled between first and second terminals.

32. The symmetrical oscillator of claim 31, wherein the inductor of each of the first and second reactive elements is coupled to the first and second active components by way of first and second capacitors, respectively.

33. The symmetrical oscillator of claim 32, wherein at least one of the first and second capacitors are one of varactor diodes and microelectromechanical systems.

34. The symmetrical oscillator of claim 32, wherein the first and second reactive elements, the first and second capacitors, the reactive components of the first and second shunt circuits, and the feedback circuit at least partially define the fundamental resonant frequency.

35. The symmetrical oscillator of claim 31, wherein the feedback circuit includes a third inductor coupled between the others of the first and second gain terminals of the first and second active components.

36. The symmetrical oscillator of claim 35, wherein the third inductor is coupled to the respective first and second active components by way of first and second capacitors.

37. The symmetrical oscillator of claim 36, wherein at least one of the first and second capacitors are one of varactor diodes and microelectromechanical systems.

38. The symmetrical oscillator of claim 36, wherein the first and second reactive elements, the first and second capacitors, and the reactive components of the first and second shunt circuits at least partially define the fundamental resonant frequency.

39. The symmetrical oscillator of claim 35, wherein the third inductor includes a center tap from which another output signal of substantially twice the fundamental resonant frequency may be obtained.

40. The symmetrical oscillator of claim 39, further comprising a fourth inductor inductively coupled to the third inductor and including a first end coupled toward a second reference node and a second end from which another output signal

of substantially the fundamental resonant frequency may be obtained.

41. The symmetrical oscillator of claim 40, wherein the first and second reference nodes are at a same potential.

42. The symmetrical oscillator of claim 40, wherein the third and fourth inductors are formed from microstrip transmission lines.

43. The symmetrical oscillator of claim 27, wherein at least one of the first and second shunt circuits include a capacitor.

44. The symmetrical oscillator of claim 43, wherein the capacitor of at least one of the first and second shunt circuits is one of a varactor diode and a microelectromechanical system.

45. The symmetrical oscillator of claim 43, wherein the first and second reactive elements, the reactive components of the first and second shunt circuits, the capacitor of at least one of the first and second shunt circuits, and the feedback circuit at least partially define the fundamental resonant frequency.

46. The symmetrical oscillator of claim 27, wherein at least one of the first and second active components is taken from the group consisting of bipolar transistors, field effect transistors, heterojunction bipolar transistors, silicon-germanium transistors, insulated gate bipolar transistors, and vacuum tubes.

47. The symmetrical oscillator of claim 46, wherein the first and second active components are bipolar transistors, respective bases of which are coupled to respective ones of the

first and second shunt circuits, collectors of which are coupled to respective ends of the feedback circuit, and respective emitters of which are coupled to the first reference node.

48. The symmetrical oscillator of claim 47, wherein the first and second active components are NPN bipolar transistors.

49. The symmetrical oscillator of claim 27, wherein a first output signal of substantially the fundamental resonant frequency is taken inductively from the feedback circuit and a second output signal of substantially twice the fundamental resonant frequency is taken from at least one of an electrical center of the feedback circuit, the common node, and the first reference node.

50. The symmetrical oscillator of claim 49, wherein one of the electrical center of the feedback circuit, the common node, and the first reference node, from which the second output signal is not taken, is coupled to a second reference node.

51. The symmetrical oscillator of claim 49, wherein the feedback circuit includes a first inductor coupled between the other of the first and second gain terminals of the first active component and the other of the first and second gain terminals of the second active component, and a second inductor inductively coupled to the first inductor having a first end coupled toward a third reference node and a second end from which the first output signal of substantially the fundamental resonant frequency is taken.

52. The symmetrical oscillator of claim 51, wherein the first, second and third reference nodes are at a same potential.

53. The symmetrical oscillator of claim 51, wherein the first and second inductors are formed from microstrip transmission lines.

54. A symmetrical oscillator, comprising:

a first active component having a drive terminal and first and second gain terminals, the drive terminal of the first active component being coupled to a first reference node;

a second active component having a drive terminal and first and second gain terminals, the drive terminal of the second active component being coupled to the first reference node;

a reactive element coupled between one of the first and second gain terminals of the first active component and one of the first and second gain terminals of the second active component, the reactive element at least partially defining a fundamental resonant frequency;

a first shunt circuit having at least one reactive component coupled between the other of the first and second gain terminals of the first active component and a common node; and

a second shunt circuit having at least one reactive component coupled between the other of the first and second gain terminals of the second active component and the common node,

wherein an output signal is taken from at least one of the reactive element, the common node, and the first reference node.

55. The symmetrical oscillator of claim 54, wherein one of an electrical center of the reactive element, the common node, and the first reference node, from which the output signal is not taken, is coupled to a second reference node such that the output signal has a frequency of substantially twice the fundamental resonant frequency.

56. The symmetrical oscillator of claim 55, wherein at least one of the first and second reference nodes are at ground potential.

57. The symmetrical oscillator of claim 54, wherein the reactive element and the reactive components of the first and second shunt circuits at least partially define the fundamental resonant frequency.

58. The symmetrical oscillator of claim 54, wherein the reactive element includes a first inductor coupled between first and second terminals.

59. The symmetrical oscillator of claim 58, wherein the reactive element is coupled to the first and second active components by way of first and second capacitors, each having one end connected to the reactive element and another end coupled to a respective one of the gain terminals of the first and second active components.

60. The symmetrical oscillator of claim 59, wherein the first and second capacitors are at least one of varactor diodes and microelectromechanical systems.

61. The symmetrical oscillator of claim 59, wherein the reactive element, the first and second capacitors, and the reactive components of the first and second shunt circuits at least partially define the fundamental resonant frequency.

62. The symmetrical oscillator of claim 58, wherein the first inductor includes a center tap from which another output signal of substantially twice the fundamental resonant frequency may be obtained.

63. The symmetrical oscillator of claim 58, further comprising a second inductor inductively coupled to the first inductor and including a first end coupled toward a second reference node and a second end from which another output signal

of substantially the fundamental resonant frequency may be obtained.

64. The symmetrical oscillator of claim 63, wherein the first and second reference nodes are at a same potential.

65. The symmetrical oscillator of claim 63, wherein the first and second inductors are formed from microstrip transmission lines.

66. The symmetrical oscillator of claim 54, wherein at least one of the first and second shunt circuits include a capacitor.

67. The symmetrical oscillator of claim 66, wherein the capacitor of at least one of the first and second shunt circuits is one of a varactor diode and a microelectromechanical system.

68. The symmetrical oscillator of claim 66, wherein the reactive element, the reactive components of the first and second shunt circuits, and the capacitor of at least one of the first and second shunt circuits at least partially define the fundamental resonant frequency.

69. The symmetrical oscillator of claim 54, wherein at least one of the first and second active components is taken from the group consisting of bipolar transistors, field effect transistors, heterojunction bipolar transistors, silicon-germanium transistors, insulated gate bipolar transistors, and vacuum tubes.

70. The symmetrical oscillator of claim 69, wherein the first and second active components are bipolar transistors, respective bases of which are coupled to the first reference node, collectors of which are coupled to respective ends of the

reactive element, and respective emitters of which are coupled to the first and second shunt circuits.

71. The symmetrical oscillator of claim 70, wherein the first and second active components are NPN bipolar transistors.

72. The symmetrical oscillator of claim 70, further comprising at least one feedback capacitor coupled between the collector and emitter of at least one of the first and second active components.

73. The symmetrical oscillator of claim 72, wherein the reactive element, the reactive components of the first and second feedback circuits, and the at least one shunt capacitor at least partially define the fundamental resonant frequency.

74. The symmetrical oscillator of claim 70, further comprising one of a varactor diode and a microelectromechanical system coupled between the collector and emitter of each of the first and second active components.

75. The symmetrical oscillator of claim 54, wherein a first output signal of substantially the fundamental resonant frequency is taken inductively from the reactive element and a second output signal of substantially twice the fundamental resonant frequency is taken from at least one of an electrical center of the reactive element, the common node, and the first reference node.

76. The symmetrical oscillator of claim 75, wherein one of the electrical center of the reactive element, the common node, and the first reference node, from which the second output signal is not taken, is coupled to a second reference node.

77. The symmetrical oscillator of claim 75, wherein the reactive element includes a first inductor coupled between the one of the first and second gain terminals of the first active component and the one of the first and second gain terminals of the second active component, and a second inductor inductively coupled to the first inductor having a first end coupled toward a third reference node and a second end from which the first output signal of substantially the fundamental resonant frequency is taken.

78. The symmetrical oscillator of claim 77, wherein the first, second and third reference nodes are at a same potential.

79. The symmetrical oscillator of claim 77, wherein the first and second inductors are formed from microstrip transmission lines.